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29 March 1965

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MEMORANDUM FOR:

ATTENTION:

THROUGH:

AD/RR

Chief, St/PR

Chief, D/MS

SUBJECT:

Updating of MS/COM Contribution to ORR Project

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a review of telecommunications developments in Kenya during the last 16 months was undertaken by this Branch in order to update our contribution to ORR Project 40.4262, dated 29 October 1963. In that a number of significant changes in the organization and operation of the telecommunications system of Kenya have occurred during the last 16 months, a revised version of our original contribution has been prepared.

2. The photographic materials, Figures 2 and 3, submitted in the original contribution remain unchanged. of this Branch, has provided D/GC with the necessary materials for updating Figure 1, a map of principal telecommunications facilities.

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Telecommunications Facilities in Kenya

ORR Project 40.4262

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Telecommunications

General

The telecommunications system of Kenya is fairly modern and adequate to meet the communications needs of the country. All telecommunications facilities, domestic and international, are under government control. With the exception of broadcast services which are provided by the Voice of Kenya, the East African Posts and Telecommunications Administration (EAPTA) -- a tripartite telecommunications organization participated/Kenya, Uganda, and Manzania -- is responsible for the operation and administration of the domestic telecommunications system. The East African External Telecommunications Company, which is controlled by EAPTA, operates international telecommunications facilities.

Telephone and Telegraph Facilities and Services

a. Domestic

The interurban telephone and telegraph facilities of Kenya are dentered on Nairobi and consist of open wireline, very high frequency (VHF) radio relay, and high-frequency (HF) radio networks. These facilities, as shown on the map, Figure 1, afford connections to most populated areas of the country.

At the beginning of 1964 there were more than 47,700 telephones in use, most of which were concentrated in Nairboi (24,200), Mombasa (8,000), Nakuru (1,500), and Kisumu (1,000). Of this total, slightly more than 80 percent were connected to automatic telephone exchanges.

Using transmission facilities in common with the telephone system, telegraph service is available at 150 telegraph offices scattered throughout the

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country and at all principal railroad stations. Teleprinter equipment is used on main routes and manual Morse is used on all other routes. In addition to regular service (TELEX) telegraph service, the system offers subscriber teleprinter/to 38 subscribers that are connected to exchanges in Nairobi and Mombasa.

b. <u>International</u>

As shown on the map, international communications are afforded to all areas contiguous to Kenya as well as to many economic centers of the world.

Open wireline and VHF radio relay facilities extend to Uganda and Tanzania and HF radio facilities provide communications to Somalia and Ethiopia. Communications to noncontiguous areas are effected primarily by HF radio and include direct connections to London, Johannesburg, Kartoum, Singapore, Bombay, Karachi, Salisbury, and at least ten other cities. Submarine cable facilities offer a limited supplement to HF radio and provide telegraph service to Zanzibar and Aden.

3. Broadcasting

Radiobroadcasting service in Kenya is nationwide and is provided mainly by 18 amplitude-modulated (AM) transmitters located in Nairobi, Mombasa, Kisumu, Nyeri, and Nakuru (see the map). The power or these transmitters ranges from 500-watt transmitters at Nakuru and Nyeri to a 20-kilowatt (kw) transmitter at Mombasa. Kenya also has three frequency-modulated (FM) transmitters located at Hillcrest, Limuru, about 22 miles northwest of Nairobi. Each of these transmitters has a power of 1-kw.

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The above transmitter facilities are united in a broadcast network wherein programs are originated in studios in Nairobi and passed to Kisumu and Mombasa by wireline and to Nyeri and Nakuru by VHF radio for rebroadcast. Although studio facilities are known to exist in both Kisumu and Mombasa, they are reported to be used only for spot announcements. It is estimated that the radio reception base of Kenya consists of some 200,000 radio sets and serves an audience of one million.

There are two TV transmitters in Kenya. One, with a power of 5-kw, is collocated with FM radiobroadcast facilities at Hillcrest, Limuru. The other is a 50-watt relay transmitter and is located at Timboroa, about 160 miles northwest of Nairobi. These transmitters provide service to about 10,000 TV sets and 250 community TV viewing centers in the country.

4. Special Systems

a. Police

The police operate a very extensive radio network that is comprised of 443 VHF and 71 HF fixed stations and several hunared mobile stations mounted on vehicles. In addition, there are eight police aircraft fitted with VHF radio equipment.

b. East African Railways and Harbors Administration (EARHA)

EARHA maintains an extensive open wireline system that generally parallels and interconnects with the EAPTA wireline network. The telephone and telegraph services provided by these facilities are open to public usage. EARHA also operates three HF radio telephone and telegraph stations.



d. Department of Civil Aviation

Two VHF air-to-ground radio stations are located at Londiani and Vuria for the automatic relay of air-traffic control messages from a control center in Nairobi. The control center at Nairobi is interconnected with civil air stations in the Sudan, Tanzania, and Uganda.

e. Other

Many private enterprises in remote regions of Kenya operate radio facilities that connect with the EAPTA network. Various government agencies, including the Ministry of Agriculture, the Forestry Department, and the agency responsible for the administration of the penal system also have some radio

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c. HF Point-to-Point Radic

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The principal radio transmitting facility of the East African

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External Telecommunications Company is located at Kabete, $\frac{1}{2}$ miles from Nairobi on Scatters Road.

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All power to operate this station is derived from two separate underground power lines, one primary and one emergency, that originate in Nairobi. A complementary receiving antenna complex is located three miles south of the transmitter site at Ngong Road, Nairobi.